AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended): A motor drive control apparatus, comprising:

a voltage detecting section (33-1, 33-2, 33-3) for detecting a phase voltage or a line voltage of a brushless DC motor having three or more phases~~,~~;

a current detecting section (32-1, 32-2, 32-3) for detecting a motor current~~,~~; and

a rotor position estimating section (200) for calculating electrical angle of the rotor of the motor~~,~~;

wherein the rotor position estimating section (200) comprising;

a back-EMF detecting section for each phase (201-1, 201-2, 201-3) for calculating a back-EMF of each phase of the motor from the phase voltage or the line voltage, the motor current, ~~the~~ a winding resistance ~~value~~ and a winding inductance ~~value~~, of the motor,

an angular speed calculating section (203) ~~which detects a back-EMF which becomes a maximum value in the back-EMF of each phase, and which calculates~~ for calculating angular speed ω of [[a]] the rotor of the motor by detecting a maximum value in the back-EMF of each phase,

and an electrical angle calculating section (204) for calculating an electrical angle θ of the rotor from the angular speed ω.

2. (currently amended): A motor drive control apparatus according to claim 1, further comprising a rotor position detecting sensor (48-1, 48-2, 48-3) for detecting electrical angles θ_0 of the rotor of the motor in a discrete manner,

wherein the electrical angle calculating section (204) corrects the calculated electrical angle θ by the detected electrical angles θ_0 .

3. (currently amended): A motor drive control apparatus according to claim 1 or 2, wherein the rotor position estimating section (200) comprises an error resistance calculating section (209) ~~which calculates~~ for calculating a resistance change amount ΔR ~~caused by temperature change~~ of the winding resistance caused by temperature change based on ~~an error~~ difference $\Delta\theta$ between the calculated electrical angle θ and the detected electrical angles θ_0.

4. (currently amended): A motor drive control apparatus according to claim 3, wherein the rotor position estimating section (200) further ~~comprising~~ comprises a changed temperature calculating section (211) for calculating a temperature change amount ΔT [[of]] in the winding resistance based on the resistance change amount ΔR.

5. (currently amended): A motor drive control apparatus according to claim ~~3 or~~ 4, wherein the rotor position estimating section (200) corrects the calculated electrical angle θ of the rotor by ~~using~~ the temperature change amount ΔT or the resistance change amount ΔR.

6. (currently amended): A motor drive control apparatus according to claim 1, ~~further including~~ wherein a low pass filter (212) ~~which~~ is disposed in an output of the angular speed calculating section (203).

7. (currently amended): An electric power steering apparatus ~~using~~ having the motor drive control apparatus according to ~~any one of claims 1 to 6~~ claim 1 or 2.

8. (new) An electric power steering apparatus having the motor drive control apparatus according to claim 3.

9. (new) An electric power steering apparatus having the motor drive control apparatus according to any one of claims 4 to 6.